

Viewpoint: Assumptions

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On what do you base most of your everyday decisions in your practice? Do you base decisions on facts? Do you base them on previous experience with similar patients or patients with similar diagnoses? Would you be surprised or insulted if someone implied that most of what you do is based on one or more assumptions? I suggest this is so. Much of what we do, how we think about the situations that confront us every day in practice, and even the philosophical underpinnings of our approach to vision care, rests on a foundation of assumptions.

Assumptions are concepts, notions, and ideas that we easily and often forget are there. They underlie the things we do all day, every day. According to the Merriam-Webster dictionary, an assumption is a fact or statement (as a proposition, axiom, postulate, or notion) taken for granted. I was somewhat surprised to see the word “fact” included because many of the things we treat as fact are not as objectively etched in stone as we might believe. Too often today’s fact is tomorrow’s punch line. As Dr. Robert Kraskin was fond of saying, “There are damn few facts in this world; there are many concepts, notions and ideas, but damn few facts.” I have always assumed he was correct.

Assumptions are at the root of many aspects of our lives and practices. They are essentially unavoidable. We as practitioners have various assumptions and those who seek our care have their own. Our assumptions can broaden our possibilities or constrict our movements. The question becomes: How can we use this information to our advantage?

The trigger for this topic was the age-old discussion among optometrists about plus at near. I believe it is still a fairly small minority, and I consider myself among them, who tend to prescribe plus lenses for *all* near-centered activities and prefer to do so for nearly all patients. This approach emerged from Skeffington’s understanding of the need to safeguard the mild hyperopia and exophoria at near that act as natural protection against the inevitable stress associated with sustained close work. Skeffington described chronic close work as a “socially compulsive visually near-centered task [that] is biologically unacceptable.”¹ Now that’s quite a few assumptions in one sentence, but some hold up better than others. It is important to keep in mind that one person’s assumption is another person’s ludicrous pronouncement.

Most practitioners will not prescribe lenses that are not correlated with the patient’s refractive data or corroborated by what they consider to be scientific proof of efficacy. These doctors continue to express concern about what they perceive as the frivolous use of plus at near in the very young. Their assumption is that there is no scientific proof that plus lenses should have significant impact on performance of near tasks, let alone visual development. For the record, I work

under the assumption that the lengthy process of presbyopia begins around age twelve since that is when accommodative amplitude peaks in the average human.² To me, this implies that intervention with plus at near is drastically underutilized. The opinion that plus lenses are typically unnecessary for those under the age of forty (or so) is a basic assumption held among eye care professionals, even within the ranks of those whose mode of practice is guided by the behavioral vision care model.

One person trying his best to create common ground on the particular issue is Dr. Gregory Kitchener. Dr. Kitchener has tried to expand the dialogue by saying the idea that *plano* is the expected and appropriate lens for near tasks for those younger than forty is nothing more than an assumption.³ *Plano* is a very convenient assumption since we are born without glasses and most appear perfectly capable of sustained near work without lenses for approximately four decades. We are all born without coats, and most of us with very little fur, but most seem quite happy and more comfortable donning warm outer wear during colder parts of the year. In fact, eschewing appropriate outerwear in certain conditions, for prolonged periods of time, can cause permanent damage to the organism; not unlike unprotected prolonged near-work.

Dr. Kitchener explained that due to his optometric upbringing, he began with a different assumption than most practitioners; plus for near is the expected, not *plano*. He recognized both concepts as assumptions, thereby putting them on equal footing. For me, this was a rational starting point. There remains no clinical evidence, research, or scientific proof that *plano* at near, particularly for sustained periods of relatively motionless interaction with two-dimensional surfaces, is optimal. I believe the major difference in these two assumptions is that those who customarily prescribe plus for near tasks have some experience comparing outcomes in the clinical setting.

This made me wonder what other assumptions might be lurking unnoticed in my own thinking and how they influence, for better or worse, my overall approach as well as my interactions with any given individual. I received tremendous help in expanding and cataloging the possibilities at the 2009 Conference on Clinical Vision Care where the topic of assumptions was the focus of two and a half days of dialog among several dozen experienced optometric clinicians, educators, and students.

Many interesting assumptions emerged from the group. For example, how often do I assume that I understand what a person is telling me when in fact what I infer has more to do with what’s going on in *my* head than in theirs? We all function with filters that color the way we think, feel, and see. How many times do we try something new that works,

and then we assume it will work in every seemingly similar situation?

Assumptions are not inherently bad. The trick is to identify our own assumptions and to be aware of the assumptions of others with whom we interact. Assumptions can become stale; that is, they are too easily relied on even though the current situation calls for an adjustment or abandonment of the associated assumption. It behooves us to recognize our assumptions for what they are, a jumping-off point to stimulate our creativity rather than a safe fall-back position. Our personal and professional development and our ability to provide the most appropriate care for each individual will be restricted if we continually and stubbornly (intentionally or otherwise) maintain stale assumptions.

Assumptions generally have a bad reputation although they are necessary for purposeful action. We must either have prior knowledge of the nature and outcome of an action, or some sense of the possibilities that may be available as a result. We would be less likely to act if we did not assume an action we wish to carry out will have the same or similar result as on previous occasions. Fortunately, we are able to make adjustments as the act is carried out and does not go exactly as we assumed. The initial assumption was important to provide the base, the confidence, and perhaps the template for action. Of course, we assume that the adjustment we make will improve the chances of a desired outcome.⁴ When attempting a new activity, we begin with an assumption of what we expect will happen and move from there.

A similar process occurs in science. First is the assumption, then the hypothesis, followed by very careful and serious research leading unerringly to a fact or statistic. A statistic is nothing more than a glamorous assumption, one with excellent breeding and designer clothes, but an assumption nonetheless. My long-held assumption is: When faced with any given individual, statistics are at best useless. Statistics can and often do obscure the reality of a given situation.

Optometry is a science. Science is full of assumptions. It was assumed for a very long time that the entire universe behaved according to Newtonian physics and atoms were constructed of three immutable particles. We assume science provides answers necessary to bolster our assumptions. Once we obtain scientific permission to believe something, we become certain of our course. Certainty is often a dead end. Richard Feynman, the esteemed Nobel Prize scientist, stated:

We have found it of paramount importance that in order to progress we must recognize our ignorance and leave room for doubt. Scientific knowledge is a body of statements of varying degrees of certainty—some unsure, some nearly sure, but none absolutely certain...Our freedom to doubt was born out of a struggle against authority in the early days of science. It was a very deep and strong struggle: permit us to question --to doubt-- to not be sure. I think that it is important that we do not forget this struggle and thus perhaps lose what we have gained. Herein lies a responsibility to society.⁵

We must fight the temptation that allows the constraints of our current assumptions to dictate rather than inform the direction or form of progress. New levels of understanding, or paradigms, generally emerge when the widely held assump-

tions are at least temporarily thrown off, leaving the door open for unthought-of discoveries.⁶

Research abounds, both from within and from outside our profession. Research begins with assumptions. There is concrete evidence of the neuro-anatomy from which the visual process emerges and functions. There is also evidence of many more pathways than the primary visual pathway from retina to visual cortex. However, this continues to go essentially unnoticed due to the assumption that it has little or no bearing on the practice of optometry. Although we like to think our philosophy, our model-of-vision, and our clinical practice are based on hard science, a healthy academic background, and our clinical experience, assumptions are ubiquitous.

I have heard my colleagues espouse the following assumptions over my years of practicing optometry:

- Glasses are at best a necessary evil prescribed to correct a defect: refractive error, strabismus, or presbyopia
- We treat diagnoses and symptoms
- Maximum acuity equals optimum performance
- Nearsightedness is genetic and immutable
- Vision therapy is not part of primary care optometry
- Cycloplegia provides the real refractive status
- Scientific studies equal evidence of efficacy
- Newer is better than older
- Orthophoria with emmetropia is the most desirable scenario

Assumptions more common among developmentally oriented optometrists include:

- The visual process is pervasive in human behavior and development
- The primary purpose of the visual process is to direct action
- Continual growth and development are expected
- Practically everyone can benefit from vision therapy
- Patients want to be active participants in their care
- Refractive deviations develop as part of the process of coming to balance with the task
- Lenses can be used to reduce stress and to guide and facilitate development
- The findings we record describe the person's adaptations to visual problems
- Mild hyperopia with mild exophoria at near is the most desirable scenario

Any assumption can be beneficial or detrimental depending on the context in which it is applied. For example, I assume open-ended questions to be of great value in expanding my understanding of patients and my ability to empathize with them. This could be disastrous in a high-volume setting where patients need to be cycled through quickly and questions more likely to elicit a brief response are desirable. Similarly, I want to work with people who are interested in being active participants in their care, who understand that the final prescription is more a negotiation between doctor and patient, rather than a sentence handed down from a higher authority. I

assume this is why certain people choose my practice as opposed to other optometrists.

I've suggested that much of what we rely on every day in practice is based on assumptions. I assume some of you may have initially taken this only with a negative connotation. I hope by this point you clearly recognize that it was not meant as such. Hopefully, as developmental optometrists we do assume that the visual process is pervasive in human behavior and that the primary purpose of the visual process is to direct action, or something along those lines. I suspect many also assume that visual therapy can benefit most, if not all human beings because continued development, growth, and change are expected. These are assumptions that cannot truly be proven beyond a shadow of a doubt, except perhaps after the fact. But these are the very concepts, notions, and ideas that spur us on in the face of the myriad complaints for which people seek our help. This is true despite the continued friction between those who subscribe to a developmental philosophy and those non-developmentally oriented practitioners who so often assume that anything they do not offer cannot help or simply does not exist.

I assume that I can help just about everyone who comes through my door to be more comfortable, more efficient, and better able to face changing demands on the visual process... until they come through my door. At that moment I realize the person in front of me is unlike any other I have met and that all my assumptions are essentially hot air until proven otherwise. I then set out to do everything in my power to help that person get what they need from what I have to offer based

on my assumptions. This works best once I have determined what the visual process means to that particular individual. Then, I can begin to understand how my assumptions may or may not apply.

Don't leave your assumptions at the door. Keep them in plain sight and use them to your advantage. Don't let them become a ball and chain that weighs you down at the moment you need to have the greatest freedom of choice and movement.

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